

ABSTRACT OF THE DISCLOSURE

The resonance frequency of the resonant circuit, which is used to apply the RF high voltage to an electrode of the ion trap device, is deliberately shifted from the frequency of the RF driver (driving frequency). This reduces the influence of the deviation in the resonance frequency caused by the change in the RF high voltage on the shift in the phase difference between the output of the RF driver and the RF high voltage. This minimizes the degradation of various performances of the ion trap device relating to the phase difference, such as the shift in the peaks of the mass spectrum, and enhances the precision and sensitivity of the mass analysis of the mass spectrometers using the ion trap device.